

T-12960

Original

T-12960

|   |                             |
|---|-----------------------------|
| Form 504  |                             |
| U. S. DEPARTMENT OF COMMERCE                            |                             |
| COAST AND GEODETIC SURVEY                               |                             |
| DESCRIPTIVE REPORT                                      |                             |
| Type of Survey  | Shoreline (Photogrammetric) |
| Field No.   | Office No. T-12960          |
| LOCALITY  |                             |
| State   | Massachusetts               |
| General locality  | Boston to Plum Island       |
| Locality  | Ipswich River               |
| 1965 - 1967   |                             |
| CHIEF OF PARTY  |                             |
| J. Bull, RADM, USESSA, Director, Atlantic Marine Center |                             |
| LIBRARY & ARCHIVES                                      |                             |
| DATE  |                             |

USCOMM-DC 5087

DESCRIPTIVE REPORT - DATA RECORD  
T -12960

PROJECT NO. (II):

Job PH-6601

FIELD OFFICE (III):

CHIEF OF PARTY

PHOTOGRAMMETRIC OFFICE (III):

OFFICER-IN-CHARGE

Atlantic Marine Center

INSTRUCTIONS DATED (II) (III):

Field - August 4, 1965  
Field - August 19, 1965 Provisional Instructions, Aerial Photography  
Office - October 8, 1965 Instructions, Aerotriangulation  
Office - January 27, 1966  
Office - February 2, 1966 Instructions, Aerotriangulation  
Office - April 28, 1966  
Field - May 20, 1966 Supplement I  
Office - July 11, 1966 Supplement I

METHOD OF COMPILATION (III):

Kelsh &amp; Graphic

MANUSCRIPT SCALE (III):

1:10,000

STEREOSCOPIC PLOTTING INSTRUMENT SCALE (III):

1:6,000 pantographed to 1:10,000

DATE RECEIVED IN WASHINGTON OFFICE (IV):

DATE REPORTED TO NAUTICAL CHART BRANCH (IV):

APPLIED TO CHART NO.

DATE:

DATE REGISTERED (IV):

SEPT 1975

GEOGRAPHIC DATUM (III):

N.A. 1927

VERTICAL DATUM (III):

MHW

~~MEAN SEA LEVEL~~ EXCEPT AS FOLLOWS:

Elevations shown as (25) refer to mean high water

Elevations shown as (5) refer to sounding datum

i.e., mean low water or mean lower low water

REFERENCE STATION (III):

None

LAT.:

LONG.:

☐ ADJUSTED☐ UNADJUSTED

PLANE COORDINATES (IV):

STATE

ZONE

ROMAN NUMERALS INDICATE WHETHER THE ITEM IS TO BE ENTERED BY (II) FIELD PARTY, (III) PHOTOGRAMMETRIC OFFICE, OR (IV) WASHINGTON OFFICE.

WHEN ENTERING NAMES OF PERSONNEL ON THIS RECORD GIVE THE SURNAME AND INITIALS, NOT INITIALS ONLY.

## DESCRIPTIVE REPORT - DATA RECORD

|   |              |         |
|---|--------------|---------|
| FIELD INSPECTION BY (II):   |              | DATE:   |
| None  |              |         |
| MEAN HIGH WATER LOCATION (III) (STATE DATE AND METHOD OF LOCATION): |              |         |
| March 1967; Graphic   |              |         |
| PROJECTION AND GRIDS RULED BY (IV):                                 |              | DATE    |
| A. E. Roundtree   |              | 4/22/65 |
| PROJECTION AND GRIDS CHECKED BY (IV):                               |              | DATE    |
| R. Glaser   |              | 4/27/65 |
| CONTROL PLOTTED BY (III):   |              | DATE    |
| L. Neterer  |              | 9/13/66 |
| CONTROL CHECKED BY (III):   |              | DATE    |
| B. Barnes   |              | 9/13/66 |
| RADIAL PLOT OR STEREOSCOPIC CONTROL EXTENSION BY (III):             |              | DATE    |
| H. P. Eichert   |              | 11/1/66 |
| STEREOSCOPIC INSTRUMENT COMPILATION (III):                          | PLANIMETRY   | DATE    |
|   | J. Place     | 3/20/67 |
|   | CONTOURS     | DATE    |
|   | Inapplicable |         |
| MANUSCRIPT DELINEATED BY (III):                                     |              | DATE    |
| J.S. Place  |              | 3/24/67 |
| SCRIBING BY (III):  |              | DATE    |
| PHOTOGRAMMETRIC OFFICE REVIEW BY (III):                             |              | DATE    |
| C.H. Bishop   |              | 3/26/67 |
| REMARKS:  |              |         |

FORM C&GS-181c  
(3-66)U.S. DEPARTMENT OF COMMERCE  
ENVIRONMENTAL SCIENCE SERVICES ADMINISTRATION  
COAST AND GEODETIC SURVEY

## DESCRIPTIVE REPORT - DATA RECORD

CAMERA (KIND OR SOURCE) (III):

"S" Camera

## PHOTOGRAPHS (III)

| NUMBER                          | DATE | TIME | SCALE | STAGE OF TIDE |
|---------------------------------|------|------|-------|---------------|
| See Form 181c for Sheet T-12961 |      |      |       |               |

## TIDE (III)

|   | RATIO OF RANGES | MEAN RANGE | SPRING RANGE |
|---|-----------------|------------|--------------|
| REFERENCE STATION: Portland (Predicted)                 |                 | 9.0        | 10.4         |
| SUBORDINATE STATION: Plum Island, South End (Predicted) |                 | 8.6        | 9.9          |
| SUBORDINATE STATION:                                    |                 |            |              |

WASHINGTON OFFICE REVIEW BY (IV): Bernard Kurs A.M.C.

DATE: Feb., 1974

PROOF EDIT BY (IV):

DATE:

NUMBER OF TRIANGULATION STATIONS SEARCHED FOR (II):

RECOVERED:

IDENTIFIED:

NUMBER OF BM(S) SEARCHED FOR (II):

RECOVERED:

IDENTIFIED:

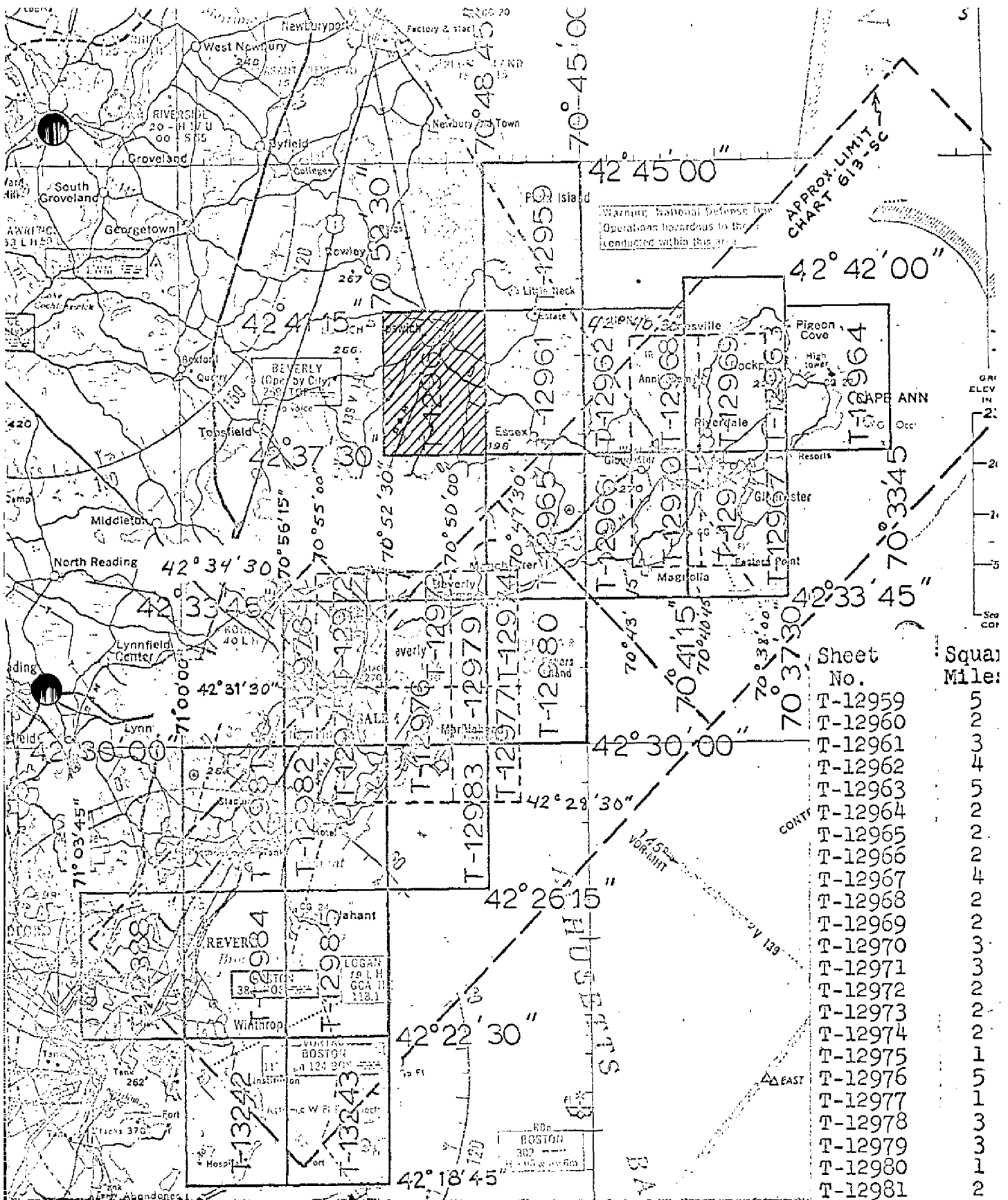
NUMBER OF RECOVERABLE PHOTO STATIONS ESTABLISHED (III):

NUMBER OF TEMPORARY PHOTO HYDRO STATIONS ESTABLISHED (III):

REMARKS:

T-12960

| COMPILATION RECORD                         | COMPLETION DATE | REMARKS    |
|--|-----------------|------------|
| Compilation Complete<br>pending field edit | March 1967      | Superseded |
| Field Edit Applied                         | October 1967    | Superseded |
| Final Review                               | Feb. 1974       |            |
|  |                 |            |
|  |                 |            |



**JOB PH-6601**  
**BOSTON TO PLUM ISLAND**  
**SHORELINE MAPPING AT 1:5,000 & 1:10,000 SCALE**  
**CHART 613-SC**  
**CHART TOPOGRAPHY AT 1:40,000 SCALE**

| Sheet No.    | Square Mile: |
|--------------|--------------|
| T-12959      | 5            |
| T-12960      | 2            |
| T-12961      | 3            |
| T-12962      | 4            |
| T-12963      | 5            |
| T-12964      | 2            |
| T-12965      | 2            |
| T-12966      | 2            |
| T-12967      | 4            |
| T-12968      | 2            |
| T-12969      | 2            |
| T-12970      | 3            |
| T-12971      | 3            |
| T-12972      | 2            |
| T-12973      | 2            |
| T-12974      | 2            |
| T-12975      | 1            |
| T-12976      | 5            |
| T-12977      | 1            |
| T-12978      | 3            |
| T-12979      | 3            |
| T-12980      | 1            |
| T-12981      | 2            |
| T-12982      | 3            |
| T-12983      | 2            |
| T-12984      | 3            |
| T-12985      | 2            |
| T-12388      | 3            |
| T-13242      | 3            |
| T-13243      | 2            |
| <b>TOTAL</b> | <b>79</b>    |

SUMMARY TO ACCOMPANY

DESCRIPTIVE REPORTS PH-6601

This shoreline manuscript is one of thirty-one, maps that make up this project. The primary purpose of the project is to provide contemporary shoreline for nautical chart construction. Maps were also used to provide photogrammetric hydro support data for the hydrographic surveys to be conducted in the same area.

The only field work prior to compilation was recovery and identification of horizontal control required for aerotriangulation.

Field edit was accomplished by a photogrammetric field party during the years 1967, 1968, 1969 and 1970. The field edit was adequate.

Cronaflex positives and ozalids of the manuscripts were furnished for the use of the field editor and the preparation of the hydrographers boat sheets. Accompanying these were specially prepared ratio photographs to aid in the location of hydrographic signals.

Final review was accomplished at the Atlantic Marine Center from September, 1973 to April, 1974.

A cronaflex positive and negative of each reviewed manuscript are being forwarded for record and registry.

FIELD INSPECTION REPORT  
T-12960  
Project PH-6601

There was no field inspection prior to compilation.



8

PHOTOGRAMMETRIC PLOT REPORT  
Job PH-6601  
Boston to Plum Island, Massachusetts

November 1, 1966

21. Area Covered

This report covers aerotriangulation for 1:5,000 and 1:10,000 scale surveys in an area north of Boston, Massachusetts. The 1:5,000 scale surveys are T-12968 thru T-12977; the 1:10,000 scale surveys are T-12959 thru T-12967 and T-12978 thru T-12985.

22. Method

Four strips were bridged by the analytic method. Strip 1 was at a scale of 1:30,000 using infrared photography; Strips 2 and 3 at a scale of 1:30,000 using color film; and Strip 4 using color film at a scale of 1:15,000.

The 1:30,000 scale bridges were to be used for the 1:10,000 scale compilation. The four-model 1:15,000 scale bridge was necessary to complete coverage on surveys T-12972 and T-12978.

Common points between the 1:30,000 and 1:15,000 scale photography were selected. Plane coordinate positions from our bridges were determined so that 1:15,000 scale models could be controlled to compile the 1:5,000 scale surveys. Plane coordinates are on the Massachusetts State Grid (Mainland). The attached aerotriangulation sketch shows location of strips bridged. Closures to control have been tabulated.

23. Adequacy of Control

Field identified control was supplemented by office identified horizontal control points and was adequate.

24. Supplemental Data

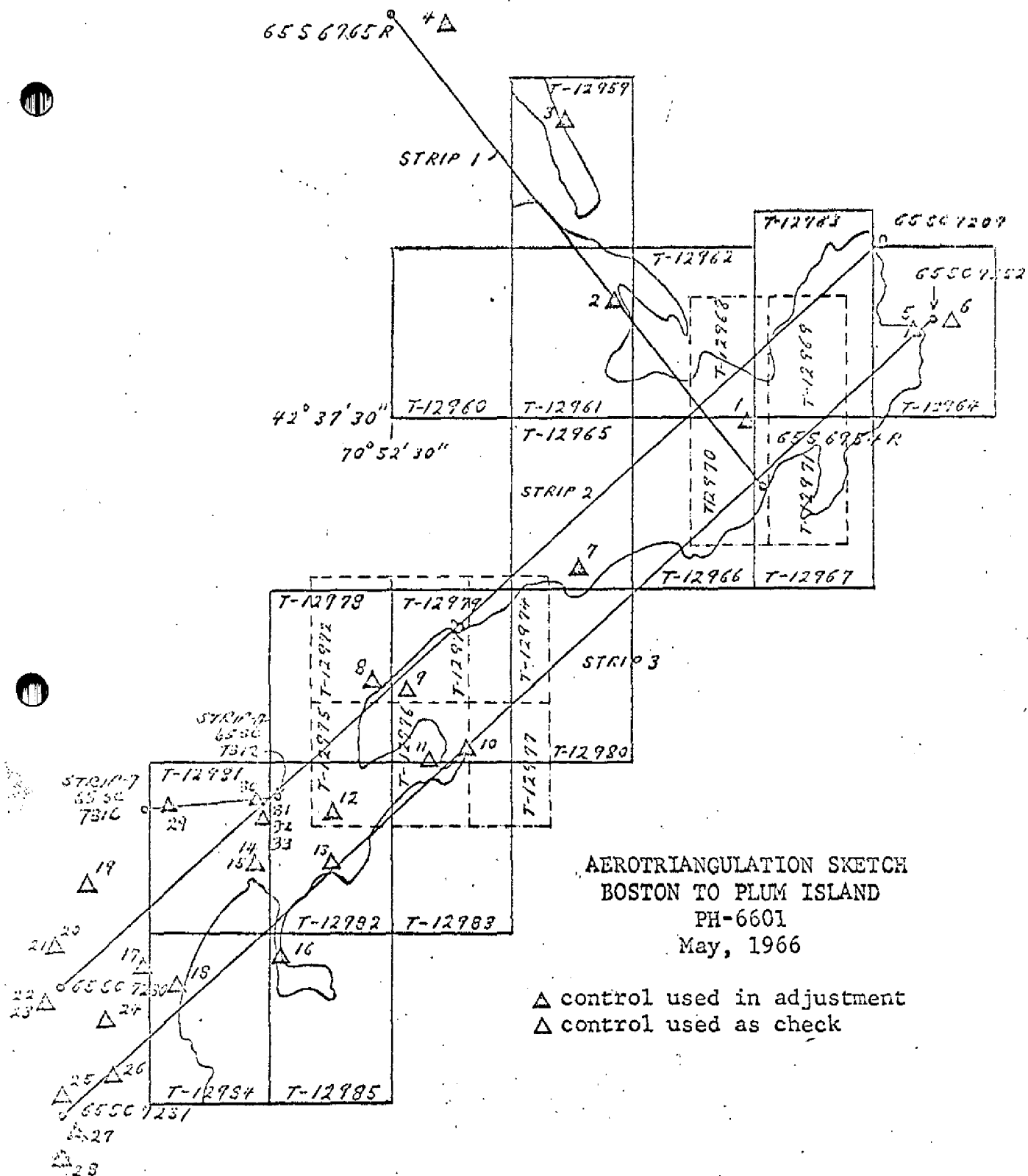
Vertical control points needed <sup>as</sup> ~~and~~ control for strip adjustments were taken from USGS quads.

25. Photography

The color photography was excellent. The infrared photography, which is not particularly suited for bridging, was adequate.

Respectfully submitted,

  
Henry P. Eichert



Fit to control  
(feet)

STRIP #1

1 MEAD 2 (MGS), 1934

target (+0.1, +0.1)

sub. pt. (-0.9, +1.7)

2 CHOATE, 1849

target (-0.4, -0.2)

3 PLUM ISLAND COAST GUARD CURCHA, 1943

target (+0.5, +0.3)

sub. pt. (-2.8, +4.5)

4 OLD TOWN, 1850

target (-0.2, -0.2)

RM #1 (-0.2, +0.3)

STRIP #2

5 STONEHAVEN (ROCKPORT TOWN (MGS)), 1939

target (+1.2, -2.6)

sub. pt. A (-0.7, -1.6)

sub. pt. B (+1.3, -3.0)

- 1 MEAD 2 (MGS), 1934

target (0.0, +3.3)

sub. pt. (+0.7, +3.6)

11  
7 MANCHESTER CHURCH DARK SPIRE, 1848

target  $(-6.0, +0.8)$

sub. pt. A  $(-7.1, +3.1)$

~~sub. pt. B~~

8 SALEM, NEW ENGLAND POWER CO. SOUTH STACK, 1954

office identified  $(+4.8, +1.9)$

9 FORT PICKERING LIGHTHOUSE, 1877

office identified  $(+6.0, +1.0)$

14 HIGH ROCK 2 (MGS)

sub. pt. A  $(+3.2, -4.4)$

sub. pt. B  $(+2.0, -2.8)$

15 HIGH ROCK 3, 1943

office identified  $(+1.8, -3.2)$

17 REVERE CATHOLIC CHURCH TOWER, 1934

office identified  $(-4.0, -4.0)$

19 BOOTH (MGS), 1934

sub. pt. A  $(+3.4, -1.4)$

24 CHELSEA QUIGLEY MEM. HOSPITAL W.T., 1958

office identified  $(-1.5, +2.2)$

20 MEDFORD RADIO STATION WEEI-FM TOWER, 1958

office identified  $(+2.1, -1.0)$

21 MEDFORD TV STATION WNAC TOWER, 1958

office identified  $(+5.3, -1.0)$

22 MEDFORD RADIO STATION WEEI NE TOWER, 1952

office identified (+1.4, +3.0)

23 MEDFORD RADIO STATION WEEI SW TOWER, 1952

office identified (+1.7, +3.1)

STRIP #3

28 BOSTON STATE HOUSE, 1934

office identified (+2.6, +5.5)

27 BOSTON CUSTOM HOUSE TOWER, 1916

office identified (+3.7, +4.7)

25 CHARLESTOWN BUNKER HILL MON., 1846

office identified (+2.2, +0.1)

26 EAST BOSTON, BOSTON and ALBANY R.R. TANK, 1916

office identified (+1.6, +5.5)

24 CHESLEA QUIGLEY MEM. HOSPITAL W.T., 1952

office identified (+7.3, -2.0)

17 REVERE CATHOLIC CHURCH TOWER, 1934

office identified (-4.0, -5.0)

18 REVERE BEACH STACK, 1919

office identified (-4.1, -2.2)

14 HIGH ROCK #2

sub ~~pt.~~ pt. B (+2.9, +3.9)

16 NAHANT COAST GUARD GUPOLA, 1919

office identified (+3.6, +6.4)

13 SWAMPSCOTT HIGH SCHOOL FINIAL, 1940

office identified  $(+0.7, +3.4)$

12 SWAMPSCOTT LARGER STANDPIPE, 1934

office identified  $(+0.7, +1.8)$

11 MARBLEHEAD, ABBOT TOWER, 1919

office identified  $(-0.6, +4.4)$

10 MARBLEHEAD LIGHTHOUSE, 1914

office identified  $(+2.0, +5.1)$

7 MANCHESTER CHURCH PARK SPIRE, 1848

target  $(-3.5, -5.8)$

sub pt A  $(-4.1, -5.2)$

1 MEAD 2 (MGS), 1934

target  $(+3.8, -0.7)$

sub pt  $(+6.2, -1.2)$

5 STONEHAVEN (ROCKPORT TOWN (MGS)), 1939

target  $(-2.1, +0.3)$

sub pt A  $(-1.3, +1.6)$

sub pt B  $(-2.0, +1.2)$

6 STRAITS MOUTH LIGHTHOUSE, 1902

office identified  $(-3.1, -5.2)$

STRIP #4

24 DANVERS, COOKE &amp; KRAUSE CO. CHIMNEY, 1919

HOME STA (-0.18 +0.79)

SS "A" (-0.01 -0.01)

SS "B" (-1.83 +1.74)

30 BEVERLY, UNITED SHOE MFG. CO. STK., 1934

(-0.01 -0.01)

31 BEVERLY, OOD FELLOWS CUPOLA, 1934

(-1.29 +1.55)

32 BEVERLY, ST. MARYS CHURCH SPIRE, 1934

(-1.32 -1.09)

33 BEVERLY, 1ST BAPTIST CHURCH, 1914

(41.35 +1.10)

## TIE POINTS

12601 (-0.28 -6.78)

12602 (-3.79 -3.20)

13601 (-2.56 -3.47)

14601 (-3.15 -1.53)

[illegible]

1 FT = 3048006 METER

COMPUTED BY:..

DATE.

**CHECKED BY:...**

DATE.

COMM-DC-57843



COMPILATION REPORT  
T-12960  
Project PH-6601

31. DELINEATION:

The graphic method of compilation was used. Pass points were located by Kelsh Instrument for use as control.

32. CONTROL:

Adequate. See Photogrammetric Plot Report.

33. SUPPLEMENTAL DATA:

None

34. CONTOURS AND DRAINAGE:

Contours are not applicable.

Drainage was compiled graphically from office interpretation of panchromatic and infrared photos.

35. SHORELINE AND ALONGSHORE DETAIL:

All compilation was done by office interpretation of the photographs. Rock elevations and additional rocks are to be located by the hydrographer.

36. OFFSHORE DETAILS:

No statement.

37. LANDMARKS AND AIDS:

None

38. CONTROL FOR FUTURE SURVEYS:

None

39. JUNCTIONS:

There are no contemporary surveys to the west, north, and south. Satisfactory junction was made with T-12961 to the east.

40. HORIZONTAL AND VERTICAL ACCURACY:

No statement.

46. COMPARISON WITH EXISTING MAPS:

Comparison has been made with USGS Quadrangle IPSWICH, MASSACHUSETTS, scale 1:24,000, revised in 1950.

47. COMPARISON WITH NAUTICAL CHARTS:

Comparison has been made with Chart 213, scale 1:20,000, 2nd Edition, March 6, 1961, revised January 11, 1965.

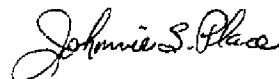
Items to be applied to nautical charts immediately:

None

Items to be carried forward:

None

Submitted:



Johnnie S. Place  
Cartographer

Approved and forwarded:



Alfred C. Holmes, RADM, NOAA  
Director, Atlantic Marine Center

Sept. 24, 1973

GEOGRAPHIC NAMES

FINAL NAME SHEETS

Ph-6601 (Boston to Plum Island, Mass.)

T-12960

Boston and Maine (RR)  
Heartbreak Hill  
Ipswich  
Ipswich River  
Labor in Vain Creek

Prepared by:

*C. E. Harrington*

C. E. Harrington  
Staff Geographer

T - 12960

49. NOTES FOR THE HYDROGRAPHER AND FIELD EDITOR

Separate edit ozalids have been prepared for your respective uses. These are intended to simplify your efforts and eliminate the possibility of any duplication of edit procedures.

On each are noted pertinent remarks concerning doubtful interpretations or items of compilation requiring additional clarification and/or verification.

For the field editor, notes include all items inshore from the approximate M.L.W.L. All offshore items are noted for the Hydrographer's attention.

Among these items requiring edit by both parties, are "Landmarks and Aids". These are indicated by a numeral. The following key is an explanation of the attention they may require:

1. Object not visible on photos. Verify by edit.
2. Object visible, position verified.(by compiler)
3. Object visible, position re-determined. Verify by edit.
4. Object which may be a landmark or new aid. Verify by edit.

Forms 567 should be submitted for all "Landmarks and Aids".

PHOTOGRAMMETRIC OFFICE REVIEW  
T-10363

|   |  |   |  |
|---|--|---|--|
| 1. PROJECTION AND GRIDS<br><b>CHB</b>   | 2. TITLE<br><b>CHB</b>   | 3. MANUSCRIPT NUMBERS<br><b>CHB</b>   | 4. MANUSCRIPT SIZE                                   |
| CONTROL STATIONS  |  |   |  |
| 5. HORIZONTAL CONTROL STATIONS OF THIRD-ORDER OR HIGHER ACCURACY<br><b>NONE</b>   | 6. RECOVERABLE HORIZONTAL STATIONS OF LESS THAN THIRD-ORDER ACCURACY (Topographic stations) <b>X</b> |   | 7. PHOTO HYDRO STATIONS<br><b>X</b>                  |
| 8. BENCH MARKS<br><b>X</b>  | 9. PLOTTING OF SEXTANT FIXES<br><b>X</b>   | 10. PHOTOGRAMMETRIC PLOT REPORT<br><b>Bridge-W.O.</b>                       | 11. DETAIL POINTS<br><b>X</b>                        |
| ALONGSHORE AREAS (Nautical Chart Data)  |  |   |  |
| 12. SHORELINE<br><b>CHB</b>   | 13. LOW-WATER LINE<br><b>CHB</b>   | 14. ROCKS, SHOALS, ETC.<br><b>CHB</b>                                       | 15. BRIDGES<br><b>CHB</b>                            |
| 16. AIDS TO NAVIGATION<br><b>X</b>  | 17. LANDMARKS<br><b>X</b>  | 18. OTHER ALONGSHORE PHYSICAL FEATURES<br><b>CHB</b>                        | 19. OTHER ALONGSHORE CULTURAL FEATURES<br><b>CHB</b> |
| PHYSICAL FEATURES   |  |   |  |
| 20. WATER FEATURES<br><b>X</b>  | 21. NATURAL GROUND COVER<br><b>X</b>   |   | 22. PLANETABLE CONTOURS<br><b>X</b>                  |
| 23. STEREOSCOPIC INSTRUMENT CONTOURS<br><b>X</b>  | 24. CONTOURS IN GENERAL<br><b>X</b>  | 25. SPOT ELEVATIONS<br><b>X</b>   | 26. OTHER PHYSICAL FEATURES<br><b>X</b>              |
| CULTURAL FEATURES   |  |   |  |
| 27. ROADS<br><b>CHB</b>   | 28. BUILDINGS<br><b>CHB</b>  | 29. RAILROADS<br><b>CHB</b>   | 30. OTHER CULTURAL FEATURES<br><b>X</b>              |
| BOUNDARIES  |  |   |  |
| 31. BOUNDARY LINES<br><b>X</b>  |  | 32. PUBLIC LAND LINES<br><b>X</b>   |  |
| MISCELLANEOUS   |  |   |  |
| 33. GEOGRAPHIC NAMES<br><b>CHB</b>  | 34. JUNCTIONS<br><b>CHB</b>  |   | 35. LEGIBILITY OF THE MANUSCRIPT<br><b>CHB</b>       |
| 36. DISCREPANCY OVERLAY<br><b>X</b>   | 37. DESCRIPTIVE REPORT<br><b>CHB</b>   | 38. FIELD INSPECTION PHOTOGRAPHS<br><b>X</b>                                | 39. FORMS<br><b>CHB</b>                              |
| 40. REVIEWER<br><b>CHB</b> <i>Charles H. Bishop</i>   |  | SUPERVISOR, REVIEW SECTION OR UNIT<br><b>ACR</b> <i>Albert C. Rauck Jr.</i> |  |
| 41. REMARKS (See attached sheet)  |  |   |  |
| FIELD COMPLETION ADDITIONS AND CORRECTIONS TO THE MANUSCRIPT  |  |   |  |
| 42. Additions and corrections furnished by the field completion survey have been applied to the manuscript. The manuscript is now complete except as noted under item 43. |  |   |  |
| COMPILER<br><i>R. R. White</i><br><b>R. R. White</b>  |  | SUPERVISOR<br><i>Albert C. Rauck Jr.</i><br><b>A. C. Rauck, Jr.</b>         |  |
| 43. REMARKS<br><br><b>Field Edit applied from Field Edit Ozalid; &amp; Field Photos. No.s 65-S-7263, &amp; 65-S-6994.</b>   |  |   |  |

FIELD EDIT REPORT  
Project PH-6601  
Cape Ann to Boston  
T-12959, T-12960, T-12961

GENERAL NOTES

These three sheets was field edited during the period 17 April through 10 May 1967. Corrections and additions have been inked on the photographs in black, except(photo. pts., LDMKS, and fixed aids which are in red) and referenced on the discrepancy print in blue.

NAUTICAL LANDMARKS & FIXED AIDS

Three nautical landmarks and one aid are noted on the discrepancy print and referenced to photographs.

LANDMARK BUILDINGS

Five buildings on MHWL and one landmark building are recommended and referenced to photographs.

All public buildings are inked on photos. number 65-S-6994 and 6995.

BLUFFS

Bluffs of LDMK value are noted on the discrepancy print and referenced to photographs.

ROADS

Corrections and additions are noted on the discrepancy print and referenced to photographs.

PIERS

All piers in question and additions to same are noted on the discrepancy print and referenced to photographs.

MARINE RAILWAYS & BOAT RAMPS

All marine railways and boat ramps are inked on photographs and referenced on discrepancy print.

22

ROCKS

All rocks questioned on the discrepancy print were verified, Corrections and additions are noted on the discrepancy print and referenced to photographs.

Locations of rocks in three areas were determined by sextant fix.

Field Edit notations are inked on the following photographs: 65-S-6994, 6995, 7262 and 7263

Submitted by:  
E.W. Hartford

24 May 1967

## REVIEW REPORT T-12960

## SHORELINE

February, 1974

61. GENERAL STATEMENT:

See summary which is page 6 of the Descriptive Report.

62. COMPARISON WITH REGISTERED TOPOGRAPHIC SURVEYS:

There are none available in this office at this time.

This survey supersedes any prior listed surveys that may exist.

63. COMPARISON WITH MAPS OF OTHER AGENCIES:

Comparison was made with U.S.G.S. Quadrangle Ipswich, Mass., 1950 at 1:24,000 scale. There is good agreement with no significant differences.

64. COMPARISON WITH CONTEMPORARY HYDROGRAPHIC SURVEYS:

There are no contemporary hydrographic surveys in the area.

65. COMPARISON WITH NAUTICAL CHARTS:

Comparison was made with Chart 213, 1:20,000 scale, dated Aug. 21, 1971. There are no significant differences.

66. ADEQUACY OF RESULTS AND FUTURE SURVEYS:

This survey complies with project instructions and meets the National Standards of Map Accuracy.

Reviewed by:

*Bernard Kurs*  
Bernard Kurs  
Cartographer



Approved for Forwarding:



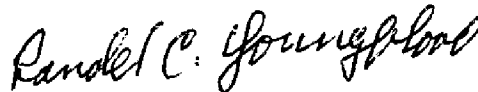
Jeffrey G. Carlen, CDR, NOAA  
Chief, Coastal Mapping Division, AMC

Approved:



Alfred C. Holmes, RADM, NOAA  
Director, Atlantic Marine Center

Approved:



Chief, Photogrammetric Branch  Chief, Coastal Mapping Division